

A Novel, Low-Cost Conformable Lander

Completed Technology Project (2012 - 2013)



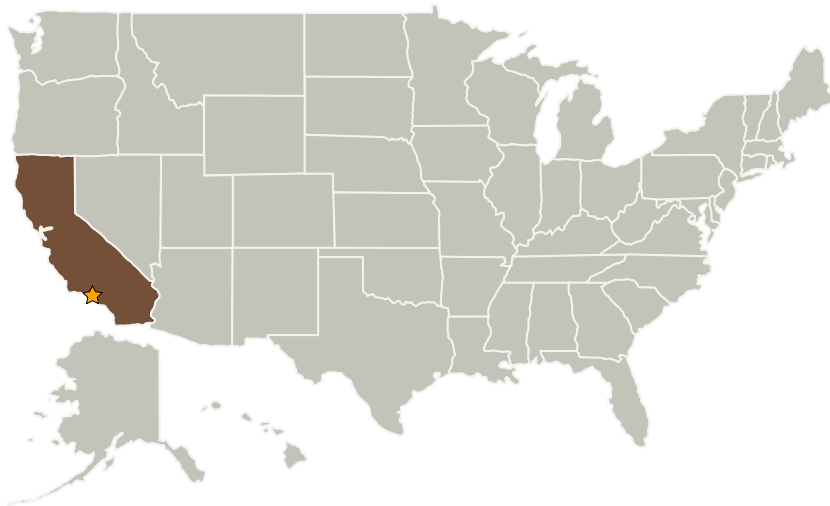
Project Introduction

The primary focus of this activity will be to outline a preliminary mechanical design for this conforming lander. Salient issues to be worked include (1) determining how to minimize rebound at landing incorporating hinges that use of torsion springs and a pawl ratchet system to attenuate the impact energy, (2) addressing terrain contours that would not necessarily exercise the hinge attenuator by utilizing low strength crushables or energy absorbing devices attached to the backs of each lander segment and (3) minimizing total lander mass through optimal integration of considerations (1) and (2).

Anticipated Benefits

Low cost lander missions will benefit from this research.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory (JPL)	Lead Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations

California



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Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Center Independent Research & Development: JPL IRAD

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Project Management

Program Manager:

Fred Y Hadaegh

Project Manager:

Jonas Zmuidzinis

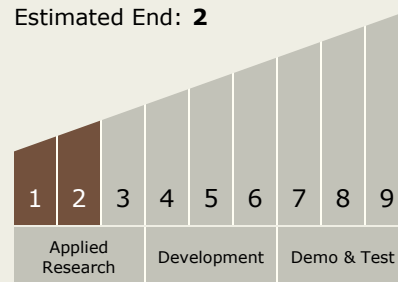
Principal Investigator:

Christopher C Porter

Technology Maturity (TRL)

Start: **1**

Estimated End: **2**



Technology Areas

Primary:

- TX04 Robotic Systems
 - └ TX04.2 Mobility
 - └ TX04.2.2 Above-Surface Mobility